

Title (en)

Method of stabilizing the surface properties of objects to be thermally treated in a vacuum

Title (de)

Verfahren zum Stabilisieren der Oberflächeneigenschaften von in Vakuum temperaturzubehandelnden Gegenständen

Title (fr)

Méthode pour stabiliser la surface d'objets devant subir un traitement thermique sous vide

Publication

EP 0544934 B1 19961002 (DE)

Application

EP 91120640 A 19911130

Priority

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Abstract (en)

[origin: EP0544934A1] To avoid a deterioration of the surface properties of objects of ceramic, glass or a single-crystal insulating material, which are subjected to a thermal process in vacuo, a thin layer of a spin-on glass solution with a silica equivalent of at most 10% is applied to the objects beforehand by spin-coating or spraying, and dried. This is particularly important for avoiding the pronounced moisture dependence of capacitive or resistive pressure sensors (10, 10') with a base body (12, 12') and a membrane (11, 11'), which must be assembled to form a chamber (13, 13') which must be tightly sealed at least at the edge. In this case, the membrane (11, 11') is coated with a layer, serving as one capacitor electrode (14) of silicon carbide, niobium or tantalum or in the zone, which is later located inside the chamber (13, 13') with at least one strain gauge (24); the base body (12, 12') is coated in the zone, which is later located inside the chamber, with at least one further capacitor electrode (15) or, in the case of a resistive pressure sensor, is not coated therewith; a thin layer (23, 23') of the spin-on glass solution is applied to the respective total surface, provided with this coating, of base body and membrane, and dried; the capacitor electrodes or strain gauges are contacted through the base body and/or membrane, and the latter are soldered together by means of an annular moulding (20, 20') of active brazing solder, serving at the same time as a spacer, or by means of a sufficient quantity of an active brazing solder paste. <IMAGE>

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IPC 8 full level

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CPC (source: EP US)

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